Orbital
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FACT SHEET

1982-2010
28 Years in Space

Minotaur III

Heavy Lift Suborbital Launch Vehicle

Artist's rendering of Minotaur III in flight

Overview

The Minotaur III suborbital launch vehicle provides the ability to deliver payloads up to 3000 kg on long range, suborbital trajectories for various U.S. Government-sponsored applications. It utilizes residual Peacekeeper solid rocket motors combined with Orbital's commercial launch vehicle technologies.

The Minotaur III is designed to be adaptable to a variety of potential payloads. A mono-propellant hydrazine propulsion fourth stage provides precision trajectory control to support the high-accuracy delivery of target or reentry systems for technology demonstration. Multiple adapters and separation systems enable a variety of options for payloads.

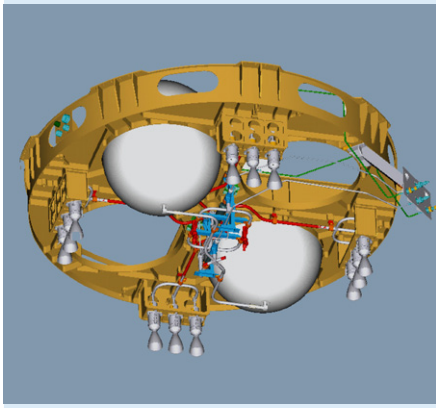
The combination of thoroughly proven motors and Orbital's extensively flight proven commercial subsystems results in a uniquely reliable, cost-effective solution. All vehicles in the Minotaur family have common avionics architectures, software, ground support equipment, and processes, providing the benefits of a shared heritage and continuity across multiple vehicles. They also benefit from Orbital's unique background in the integration of surplus motors and state-of-the-art systems, a depth of experience spanning several decades.

The Minotaur family of launch vehicles are provided via the Orbital/Suborbital Program 2 (OSP-2) and managed by the U.S. Air Force Space and Missile Systems Center (SMC), Space Development and Test Wing's (SDTW) Launch Test Squadron (LTS) located at Kirtland AFB, NM.

QUICK FACTS:

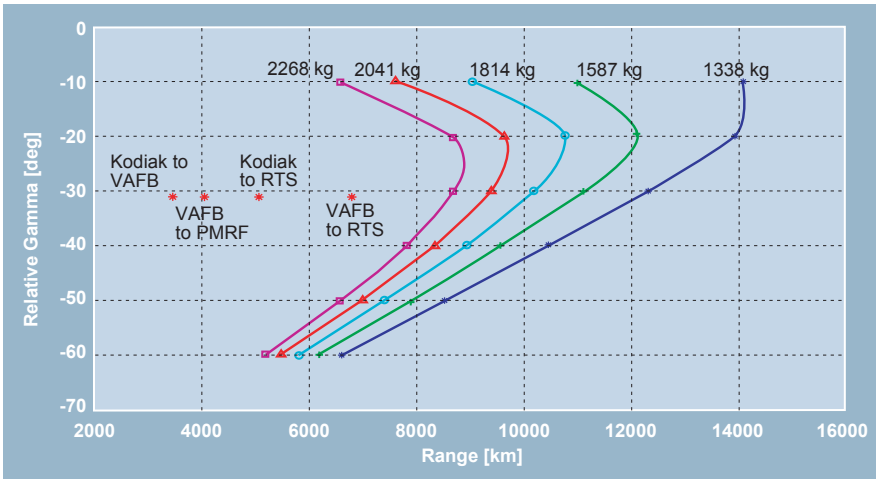
System Features

- Avionics and software architecture common with all Minotaur-family launch vehicles
- Flexible design, readily configured to support varied target requirements, including ascent heated payloads, non-separating configuration, and deployment of multiple objects.
- Mission success is ensured by mature systems and processes
  - Orbital's rigorous mission assurance process
  - Full Government insight and independent assessment
- Minimal infrastructure requirements and portable ground support allow launch from multiple existing Government launch ranges as well as austere sites
- Responsive launch solutions from 6 months to minutes available



Monopropellant hydrazine upper stage provides precise insertion

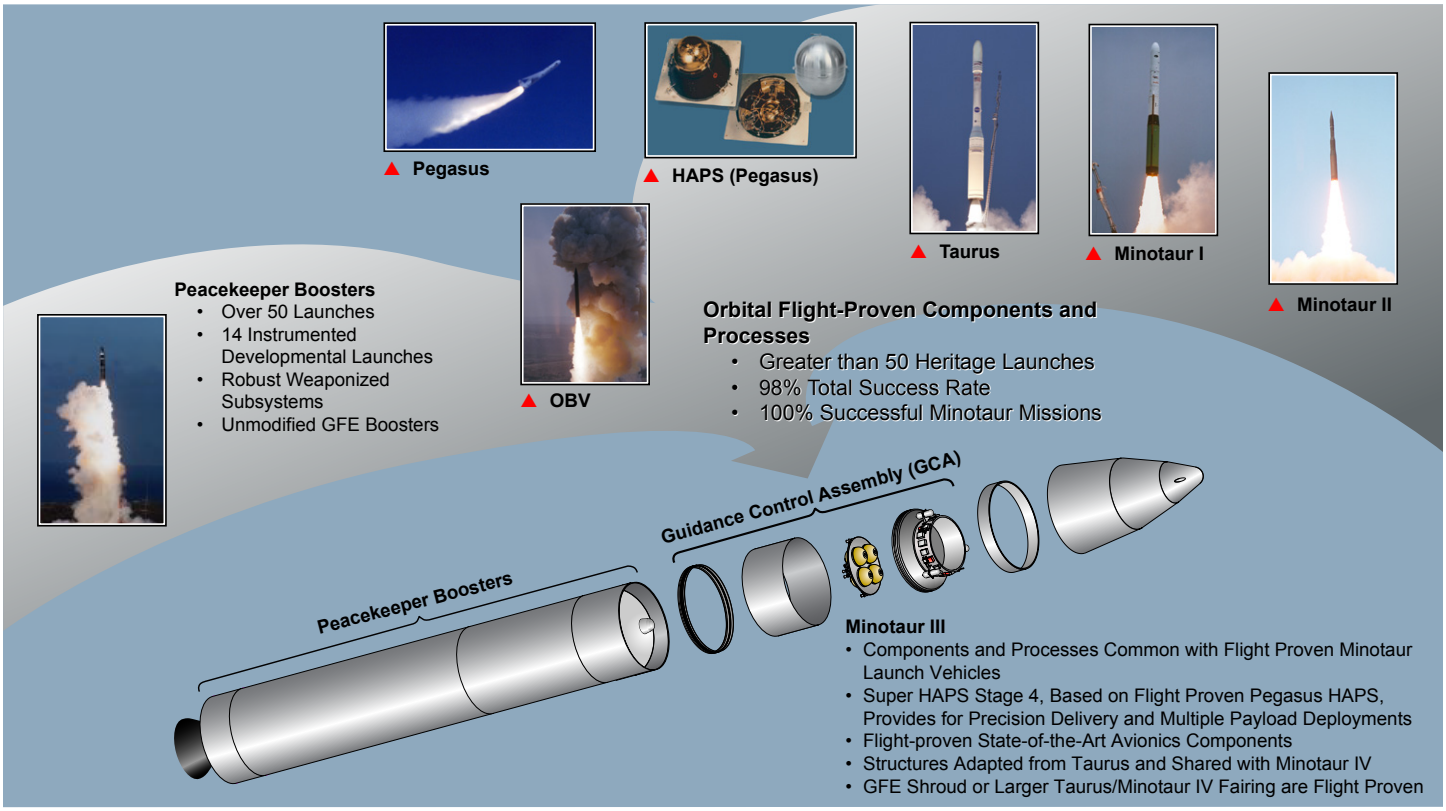
Minotaur III



Minotaur III has extensive heritage from multiple Orbital launch vehicles

Performance

- 3000 kg delivered over 5,000 km downrange
- Monopropellent hydrazine post-boost propulsion for precision targeting and multiple payload delivery
- Support for pre-separation payload attitude control, multiple payload deployments, and payload telemetry re-radiation
- Flight-proven 92 inch fairing available for larger payloads


Pegasus
HAPS (Pegasus)
Taurus
Minotaur I
Minotaur II
OBV
Peacekeeper Boosters
• Over 50 Launches
• 14 Instrumented Developmental Launches
• Robust Weaponized Subsystems
• Unmodified GFE Boosters
Orbital Flight-Proven Components and Processes
• Greater than 50 Heritage Launches
• 98% Total Success Rate
• 100% Successful Minotaur Missions
Guidance Control Assembly (GCA)
Peacekeeper Boosters
Minotaur III
• Components and Processes Common with Flight Proven Minotaur Launch Vehicles
• Super HAPS Stage 4, Based on Flight Proven Pegasus HAPS, Provides for Precision Delivery and Multiple Payload Deployments
• Flight-proven State-of-the-Art Avionics Components
• Structures Adapted from Taurus and Shared with Minotaur IV
• GFE Shroud or Larger Taurus/Minotaur IV Fairing are Flight Proven

Multiple configurations provide a range of performance options

For technical details, please contact:

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Additional information should be obtained from the USAF OSP Office

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